



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D350-636-012
Job Sheet 178944



Part No: D350-636-012

Job Qty: 1 ea

Part Name: Skidtube RH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp.



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 6/11/18

Job Tracking No:

Due Date: 7/6/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG D3492 REV E SHEET 1, D2750-042 REV G SHEETS 1,2,5,9 IPP Rev:I 02.09.25 IPP Rev:J 06-03-23 As per Rev D IPP Rev:K 06-07.13 As per dsi9343 IPP Rev:L 07-07-28 Added SS Wearplates(Rev E) JLM Verf:EC IPP Rev:M 08-04-22 DD verified:EC IPP Rev:N 08-09-23 revF DD verified:ec IPP Rev:O 09-02-06 per PAR09-010 DD verf:EC IPP Rev:P 10.06.22 revise seq110 DD verf:EC IPP Rev:Q 10.10.01 as per IIN revH DDverf:EC IPP REV:R 13.08.27 PER ECN13-594 DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea	7/6/18	7/6/18	0.00	0.00	Start Up Skid tubes-1		MLG
110	Skid tubes	1 pcs	7/6/18	7/6/18	0.00	4.36	Skid tubes-4		MLG BE JLM
120	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC10		38 DAS
130	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC5		9-89 38
140	HandFinish	1 pcs	7/6/18	7/6/18	0.00	0.91	HandFinish1		D.R 18-08-15
150	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC7-2		BE 1-3
160	Skid tubes	1 pcs	7/6/18	7/6/18	0.00	4.36	Skid tubes-1		38 DAS
170	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC10		9-89 38
180	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC5		9-89 38
190	HandFinish	1 pcs	7/6/18	7/6/18	0.00	0.91	HandFinish2		SA 18-07-10
200	SprayPaint	1 pcs	7/6/18	7/6/18	0.00	0.09	Spray Paint		SEP 12 2018
205	Outsource	1 pcs	7/6/18	7/6/18			ATE003-VC		PO 1027 DAS SEP 13 2018
210	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC14		SEP 13 2018 68 38 9-89
230	HandFinish	1 pcs	7/6/18	7/6/18	0.00	0.91	HandFinish4		SEP 14 2018 68
240	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC5		SEP 18 2018 68
250	Packaging	1 pcs	7/6/18	7/6/18	0.00	0.00	Packaging1-3		SEP 18 2018 68
260	QC	1 pcs	7/6/18	7/6/18	0.00	0.00	QC4		SEP 18 2018 68
270	Packaging	1 pcs	7/6/18	7/6/18	0.00	0.00	Packaging3-1		SEP 18 2018 68
275	DC	1 pcs	7/6/18	7/6/18	0.00	0.00	DC		SEP 18 2018 68
280	QC21-FG	1 Ea	7/6/18	7/6/18	0.00	0.00	QC21		SEP 18 2018 68

Part Op 110 - 1- Pick D2600-3 Bent Drill pilot holes as per Dwg D2750 sheet 4 (D2750-2 details). Drill using drill Jig DT8150 & Descriptions: DT8863A for second side only DT8863B for first side (detail K) 4- Locate DT8329 off of blade fitting bolt holes and drill pilot holes for blade fitting. Open to 0.500" using hole saw. VERIFY AND RECORD FWD BEND ANGLE. 6- Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297". 7- Open up holes of Detail J to 0.297" (total of 2 holes per side) 8- Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left from bending as per QSI 004 9- Grind welds flush as per Dwg D2750

160 - 1- Open up holes of Detail L using hole saw and ground handling to 0.625" (total of 8 holes per side) as per dwg D2750. 2- Open up holes of Detail K using hole saw to 0.750" (total of 4 holes per side) as per dwg D2750. 3- Open float holes using uni-bit to .500" (4 per Side) 4- Chamfer holes of Detail K, L, ground handling and float holes per dwg D2750 (welding instructions on sheet 9) 5- Deburr and blow out all chips from inside of tube 6- Prepare tube for welding, remove alodine as required. 7- Bond web D2739 in place as per QSI 015, let cure for 12hrs. A/R Sikaflex-291 batch: 55871C exp. date: 15/06/18 *ATTN: USE I-BEAM LOCATION AID (BLADE FITTING)*** 8- Weld spacers D3490-1, D3490-3

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table border="0"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																																																																	
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1270 Aberdeen Street Newbury, OH 44117 CANADA TEL: 1 613 632-6200 Email: sales@dartaero.com www.dartaerospace.com Container No: S100104 Part: D350-636-012 Job No: 178944 Serial No/Batch: S100104 Revision: Inspector: Exp Date: Instructions: TC STC SH99 - 7 Issue 2, EASA S7G SR00646SE 15/10/28, EASA STC								Completed By																																																																																																																	
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and D2743 as per dwg D2750 & QSI004 (welding instructions on sheet 9) A/R Aluminum Rod batch: 138834 9- At section AP-AP drill out x-bolt spacer to 0.404" 10-Grind welds flush as per Dwg D2750 11- Spot face ground handling holes section (total of 4 places per side) as per dwg D2750 12- Deburr holes, ensure tube is free of all scratches before sending to paint.

180 - ***VERIFY C'BOARD IS GOOD***

190 - Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

200 - 1- PRIME AS PER DWG AND QSI 005 4.2 PRIMER PRC DESOTO 515X349 BATCH: _____ 2- PAINT WHITE AS PER DWG AND QSI 005 4.2 PAINT BATCH: _____

210 - Inspect for foreign object per QSI 024

230 - 1-Install inserts as per dwg D2750 2-Inspect for Foreign Objects 3-Install blade fitting D3488-042, wearshoes and ground handling hardware as per dwg D2750 SIKA FLEX 241 BATCH: M138874 EXP DATE: 06-19

4-assemble o'ring to plug as per dwg D3492 and apply o'ring lube A/R 55-o'ring lube batch: M138843 5-Coat all exposed fasteners with "LPS Procyon" batch: M133690.

270 - Package as per PPP D350-636-012

275 - record fwd angle: 89.9 Photocopy blue file and type labels per PPP D350-636-012 CHG 007

M.H. 005457

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D2600-3-BENT-RH	Extrusion Bent RH	1 Ea (1 ea)	90-Start up Operation	<u>5081465</u>
D2744	Cap	1 Ea (1 ea)	110-Skidtubes	<u>5060499</u>
D2739	350 I-Beam	1 Ea (1 ea)	160-Skidtubes	<u>5060893</u>
D2743	Crossbolt Spacer	8 Ea (8 ea)	160-Skidtubes	<u>5090612</u>
D3490-1	Cross Bolt Spacer	4 Ea (4 ea)	160-Skidtubes	<u>5082748</u>
D3490-3	Cross Bolt Spacer	4 Ea (4 ea)	160-Skidtubes	<u>5082950</u>
ALS4-1032-225	Rivnut	38 Ea (38 ea)	230-HandFinish	<u>5058138</u>
AN3C5A	Bolt	34 Ea (34 ea)	230-HandFinish	<u>5095214</u>
AN3C6A	Bolt	4 Ea (4 ea)	230-HandFinish	<u>5076000</u>
AN6C44A	Bolt	4 Ea (4 ea)	230-HandFinish	<u>2x5006333-1/2x5006333</u>
AN8C35A	Bolt	1 Ea (1 ea)	230-HandFinish	<u>5103997</u>
D2745	Bushing	8 Ea (8 ea)	230-HandFinish	<u>5091818</u>
D3488-042	Blade Fitting RH	1 Ea (1 ea)	230-HandFinish	<u>5093460</u>
D3492-1	Plug	8 Ea (8 ea)	230-HandFinish	<u>5090814</u>
D3492-3	Plug	8 Ea (8 ea)	230-HandFinish	<u>5091848</u>
D3535-25	Wearplate Center	1 Ea (1 ea)	230-HandFinish	<u>5082036</u>
D3536-25	Gasket Center	1 Ea (1 ea)	230-HandFinish	<u>5099641</u>
D3537-1	Wearpad	3 Ea (3 ea)	230-HandFinish	<u>5083401</u>
D3631-1	Washer	8 Ea (8 ea)	230-HandFinish	<u>5058407</u>
D3791-1	Wearpad	1 Ea (1 ea)	230-HandFinish	<u>5081690</u>
D3793-1	Wearplate Fwd	1 Ea (1 ea)	230-HandFinish	<u>5098197</u>
D3793-3	Wearplate Aft	1 Ea (1 ea)	230-HandFinish	<u>5089463</u>
D3794-1	Gasket Fwd	1 Ea (1 ea)	230-HandFinish	<u>5071975</u>
D3794-3	Gasket Aft	1 Ea (1 ea)	230-HandFinish	<u>5081738</u>
MS21043-6	Nut	4 Ea (4 ea)	230-HandFinish	<u>5058146</u>
MS21083C8	Nut	1 Ea (1 ea)	230-HandFinish	<u>5090633</u>
NAS1149C0332R	Washer	38 Ea (38 ea)	230-HandFinish	<u>5071663</u>
NAS1149C0832R	Washer	1 Ea (1 ea)	230-HandFinish	<u>5076017-2</u>
NAS1515H3L	Washer	4 Ea (4 ea)	230-HandFinish	<u>5083559</u>
NAS1611-010	O-Ring	8 Ea (8 ea)	230-HandFinish	<u>5092499</u>
NAS1611-013	O-Ring	8 Ea (8 ea)	230-HandFinish	<u>5057659</u>
AN8C21A	Bolt	2 Ea (2 ea)	250-Packaging	<u>5098514x</u>
D2741	Replacement Blade	1 Ea (1 ea)	250-Packaging	<u>5082286</u>
D3493-1	Washer	2 Ea (2 ea)	250-Packaging	<u>5095455</u>
D3532-1	Spacer	2 Ea (2 ea)	250-Packaging	<u>5090421</u>
MS21083C8	Nut	2 Ea (2 ea)	250-Packaging	<u>5083551</u>
NAS1149D0863J	Washer	2 Ea (2 ea)	250-Packaging	<u>5089148</u>

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D2600-3-BENT-RH	1	11	0
110-Skidtubes	D2744	1	77	0
160-Skidtubes	D2739	1	9	0
	D2743	8	78	0
	D3490-1	4	124	0
	D3490-3	4	103	0

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

230-HandFinish

ALS4-1032-225	38	4,690	0
AN3C5A	34	1,863	0
AN3C6A	4	432	0
AN6C44A	4	323	0
AN8C35A	1	55	0
D2745	8	57	0
D3488-042	1	9	0
D3492-1	8	328	0
D3492-3	8	159	0
D3535-25	1	15	0
D3536-25	1	22	0
D3537-1	3	116	0
D3631-1	8	875	0
D3791-1	1	27	0
D3793-1	1	20	0
D3793-3	1	20	0
D3794-1	1	46	0
D3794-3	1	20	0
MS21043-6	4	208	0
MS21083C8	1	109	0
NAS1149C0332R	38	5,937	0
NAS1149C0832R	1	447	0
NAS1515H3L	4	171	0
NAS1611-010	8	509	0
NAS1611-013	8	405	0
AN8C21A	2	102	0
D2741	1	78	0
D3493-1	2	43	0
D3532-1	2	26	0
MS21083C8	2	109	0
NAS1149D0863J	2	93	0

250-Packaging

Part Specifications

Specifications could not be found.

Plex 6/11/18 10:43 AM Dart.lajeunesse.marie

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
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Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN8C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH: ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
 STANDARD: PRIME (REF. 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2
 OPTIONAL: POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
 BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- WELD PER DART QSI 004
- INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
 MINIMUM YIELD TENSILE STRENGTH = 35 KSI
 MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF FINISH WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

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G	CORRECTED TOLERANCE ON $\phi 0.500$ THRU HOLE: IS $+0.010/-0.000$, WAS $+0.100/-0.000$ (ZN B3-4, B2-5); ADD VIEW TO CONTROL FWD BEND ORIENTATION (ZN D-1-4/-5/-6/-7); UPDATED FINISH OPTIONS; INSIDE OF TUBE NO LONGER SPRAYED WITH LPS-3. REASON: PART 13-278 AND NGR13-2757	MB	13.07.11
F	INCORPORATE DSI 9413. QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/-3 REPLACES D3535-13/-35 (ZN C8-1); D3794-1/-3 REPLACES D3536-13/-35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 06-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES. ADD RUBBER GASKETS; CHANGE INSERTS: ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H8L; REMOVE D2741, QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEO 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN	MM		
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	13.07.11		

DART AEROSPACE USA, INC.
KENT, WA
DRAWING NO. **D2750**
REV. G
SHEET 1 OF 11
TITLE **350 SKIDTUBE ASSEMBLY**
SCALE NTS
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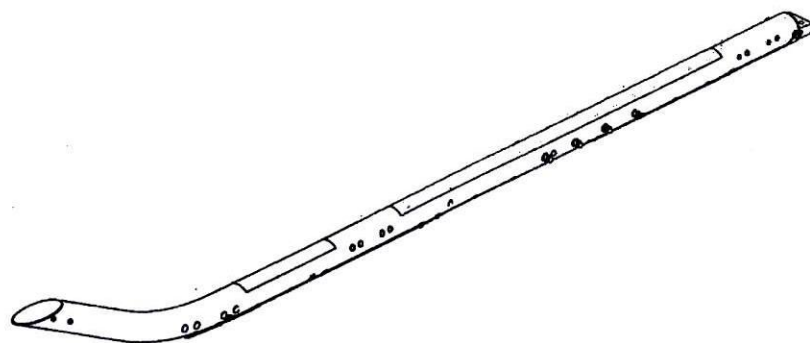


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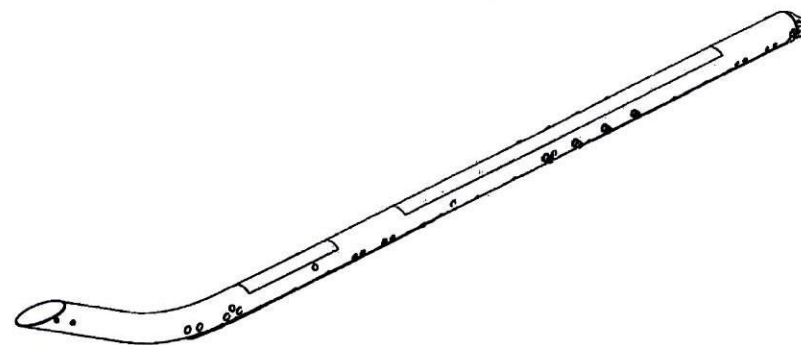
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____					



D2750-041 350 SKIDTUBE ASSEMBLY, LH



D2750-042 350 SKIDTUBE ASSEMBLY, RH

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CHECKED	<i>[Signature]</i>	DRAWING NO. D2750	REV. G
MFG. APPR.	<i>[Signature]</i>	SHEET 2 OF 11	
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	350 SKIDTUBE ASSEMBLY	NTS
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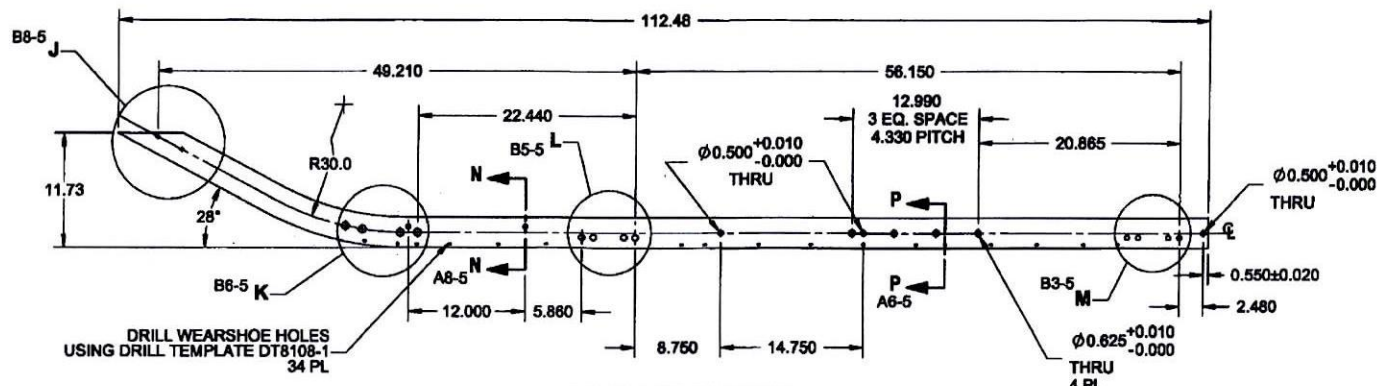


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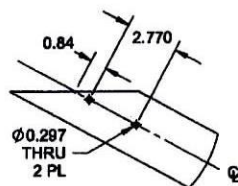
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Work Order update only ☐

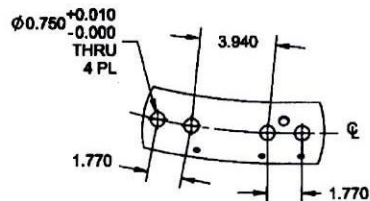
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		OTHER : ☐			



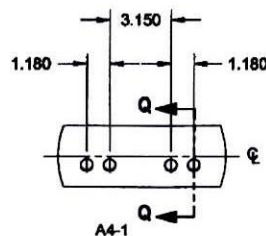
D2750-2 RH SKIDTUBE



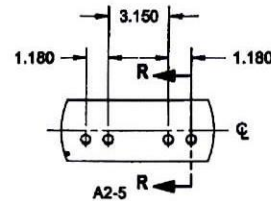
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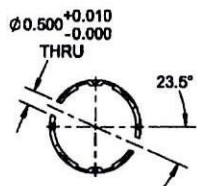
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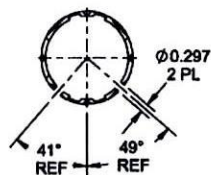
DETAIL L
SCALE 2X



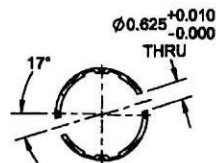
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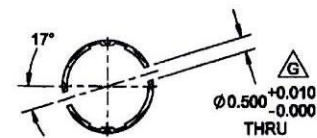
SECTION N-N
SCALE 3X, 2 PL



SECTION P-P
SCALE 3X, 17 PL



SECTION Q-Q
SCALE 3X, 4 PL



SECTION R-R
SCALE 3X, 4 PL

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DESIGN	MM	DART AEROSPACE USA, INC.	
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OTHER : ☐					

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QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER :					



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO040993**

Supplier: ATE003-VC
Atelier Debosselage
358 Principale
Calumet
QC
J0V 1B0 Canada
Phone: 819 242 5633

PO No: PO040993
PO Date: 9/12/18
Due Date: 9/14/18
Purchase Order Revision:
Revision Date:
Ship-To Contact: Lavoie, Chantal
Phone: clavoie@dartaero.com

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	178941	D350-636-011	Skidtube LH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp. : TC STC SH99-7 Issue 2, FAA STC SR00646SE 15/10/28, EASA STC EASA.10033942 11/02/21, BRAZIL 2009S05-01 09/05/08	Firmed -	-	9/14/18	1 pcs	0 pcs	1 pcs	\$225.00/pcs	\$225.00
	180084		1 X SEP 13 2018	Firmed -	-	9/14/18	1 pcs	0 pcs	1 pcs	\$225.00/pcs	\$225.00
	181318		1 X SEP 13 2018	Firmed -	-	9/14/18	1 pcs	0 pcs	1 pcs	\$225.00/pcs	\$225.00
	181317		1 X SEP 13 2018	Firmed -	-	9/14/18	1 pcs	0 pcs	1 pcs	\$225.00/pcs	\$225.00
Sub Total:							4	0	4		\$900.00
2	181323	D350-636-012	Skidtube RH, Std Wearplates, DART (Apical) Cylindrical/Aerazur Float Comp. : TC STC SH99-7 Issue 2, FAA STC SR00646SE 15/10/28, EASA STC EASA.10033942 11/02/21, BRAZIL 2009S05-01 09/05/08	Firmed -	-	9/14/18	1 pcs	0 pcs	1 pcs	\$250.00/pcs	\$250.00
	181324		1 X SEP 13 2018	Firmed -	-	9/14/18	1 pcs	0 pcs	1 pcs	\$250.00/pcs	\$250.00
	178944		1 X SEP 13 2018	Firmed -	-	9/14/18	1 pcs	0 pcs	1 pcs	\$250.00/pcs	\$250.00
	180133		1 X SEP 13 2018	Firmed -	-	9/14/18	1 pcs	0 pcs	1 pcs	\$250.00/pcs	\$250.00
Sub Total:							4	0	4		\$1,000.00

Grand Total: \$1,900.00



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER
PO040993

Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

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Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

SUBCONTRACT SHIPPER

SUBCONTRACT SHIP TO

Ship To: Atelier Debosselage
358 Principale
Calumet, QC J0V 1B0 Canada
Phone: 819 242 5633 **Fax:**

SHIPPER

Shipper No: 612
Shipper Date: 9/12/18
Carrier: *
Ship Via:
Vehicle Reg:
Note:
Freight Terms:

Part Information

Part No: D350-636-011
Cust Part No: D350-636-011
Reference No:
Part Information Note: D2750-041 REV G SHEETS 1,2,4,8 IPP Rev:I
02.09.25 IPP Rev:J 06-03-23 As per Rev D IPP
Rev:K 06-07.13 As per dsi9343 IPP Rev:L 07-07-28
Added SS Wearplates(Rev E) JLM Verf:EC IPP
Rev:M 08-04-22 DD verified:EC IPP Rev:N 08-09-23
revF DD verified:ec IPP Rev:O 09-02-06 per PAR09-
010 DD verf:EC IPP Rev:P 10.06.22 revise seq110
DD verf:EC IPP Rev:Q 10.10.01 as per IIN revH
DDverf:EC IPP REV:R 13.08.27 PER ECN13-594 DD
VERF:JLM

Name: Skidtube LH, Std Wearplates, DART (Apical)
Cylindrical/Aerazur Float Comp.

Product Family: Landing Gear

Piece Weight: 0 lbs

Alloy Type:

Alloy - Temper: -

Description: TC STC SH99-7 Issue 2, FAA STC SR00646SE
15/10/28, EASA STC EASA.10033942 11/02/21,
BRAZIL 2009S05-01 09/05/08

Quantity:

Drawing No:

Program:

Program Customer:

Addl Docs:

Commercial: Product Line: Skidtube - Float w/ Standard
Wearplates
Primary OEM Application: Airbus
Manufacturer: DART
Sales Lead Time: 3.5 weeks
Business Segment: Replacement Parts
Advertised on web?: Yes
Shipping Dims & Weights: Metric: L3m x W0.36m x
H0.18m,Actual Weight of 27.22 kg
Shipping Dims & Weights: Imperial: L119" x W14" x
H7",Actual Weight of 60 lbs
Royalty Paid To: DAS USA Inc

OPERATION

Operation: Outsource - 205

Description:

Note:

DETAIL

Part	Operation	PO	Job	Container	Heat Code	Net Weight (lbs)	Gross Weight (lbs)	Quantity
D350-636-011 09/20/2017 LMC For Float Systems Under FAA STC SR00470La (AS350 Models) And SR00645LA (AS355 Models). Not Currently Compatible With 20331.101/102 Utility Floats. Contact Engineering For Custom Manufactured Undrilled Skidtubes. When Quoting Customers That Require PMA Approval, You	Outsource	PO040993	178941	S091968		0	0	1

9/12/2018

[Dart Hawkesbury] Subcontract Shipper - Lavoie, Chantal

Will Need To Quote The Customer With Lead Time
 Comment: Exworks Eugene, PMA Required. Hawkesbury Provides Lead Time. If Customer Sends Quote Request Or Po With -PMA, You Must Communicate With The Customer To Ask Them To Review The Part Number To D350-636-011. Oversized Item, Please Refer To Shipping Instructions.

D350-636-012

09/20/2017 LMC For Float Systems Under FAA STC SR00470LA (AS350 Models) And SR00645LA (AS355 Models). Not Currently Compatible With 20331.101/.102 Utility Floats. Contact Engineering For Custom Manufactured Undrilled Skidtubes. When Quoting Customers That Require PMA Approval, You Will Need To Quote The Customer With Lead Time
 Comment: Exworks Eugene, PMA Required. Hawkesbury Provides Lead Time. If Customer Sends Quote Request Or Po With -PMA, You Must Communicate With The Customer To Ask Them To Review The Part Number To D350-636-012. Oversized Item, Please Refer To Shipping Instructions.

Outsource**PO040993**

180084	S100693	0	0	1
181318	S100886	0	0	1
181317	S101001	0	0	1
180133	S099782	0	0	1
178944	S100104	0	0	1
181324	S100257	0	0	1
181323	S100443	0	0	1
Total	8	0	0	8

Driver Signature

Customer Copy

Plex 9/12/18 10:18 AM dart.lavoie.chantal

DART

DESIGN <i>PH</i>	DRAWN BY <i>PH</i>	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
CHECKED <i>CP</i>	APPROVED <i>#</i>	DRAWING NO. DSI 9343	REV. A SHEET 1 OF 1
DATE 06.07.12		TITLE D350-636-011/-012 SPACER	SCALE NTS
A	06.07.12	NEW ISSUE	

DART SERVICE INSTRUCTION

TO AMEND DRAWING IIN-D350-636 REV. D

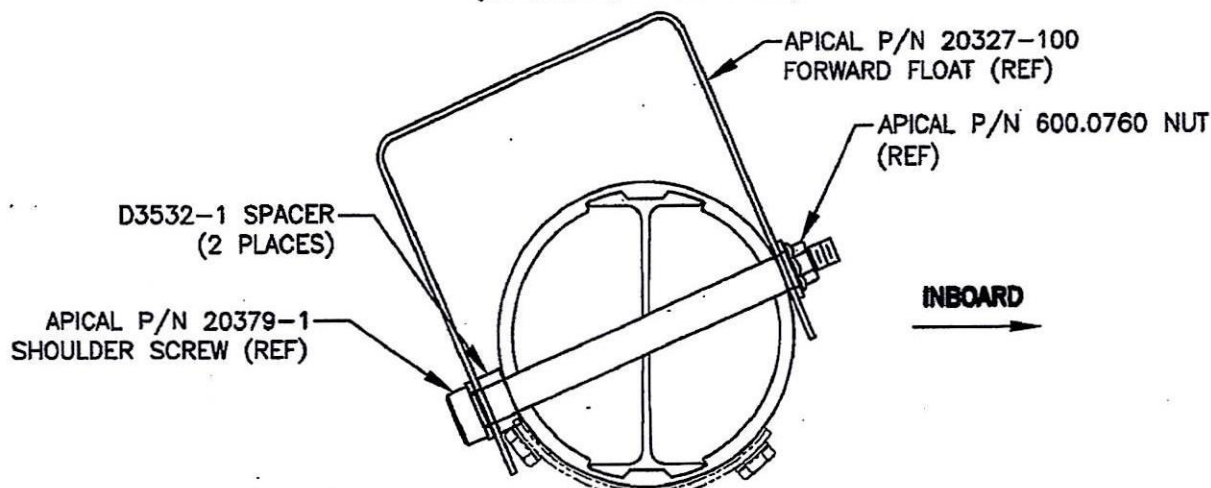
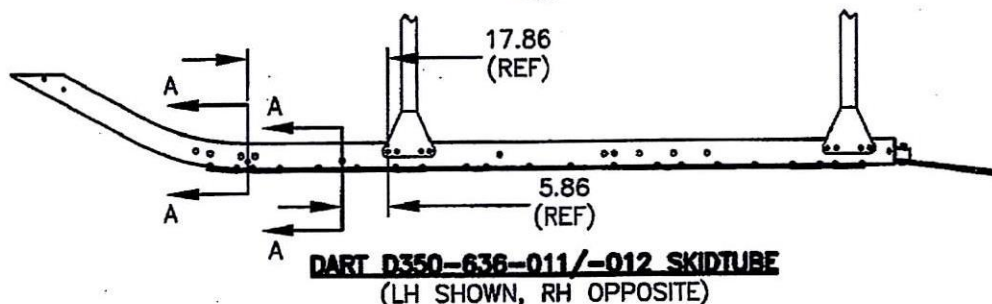
REF. FAA STC: SR00646SE

REF. CANADIAN STC: SH99-7

WHEN INSTALLING THE APICAL P/N 20327-100 FWD FLOATS ONTO THE DART D350-636-011/-012 SKIDTUBES, INSTALL THE DART D3532-1 SPACER AS SHOWN IN SECTION A-A TO ALLOW CLEARANCE FROM THE FWD WEARPLATES.

ADD THE FOLLOWING PARTS TO THE PARTS LIST ON PAGE 10 AND 11 OF IIN-D350-636 REV D:

Item	Qty -011	Qty -012	Qty -103	Qty -104	Part Number	Description
	X				D350-636-011	SKIDTUBE INSTALLATION, LH, STD AERAZUR/APICAL CYLINDRICAL FLOAT COMPATIBLE
		X			D350-636-012	SKIDTUBE INSTALLATION, RH, STD AERAZUR/APICAL CYLINDRICAL FLOAT COMPATIBLE
			X		D350-636-103	APICAL FLOAT CONVERSION KIT, LH
				X	D350-636-104	APICAL FLOAT CONVERSION KIT, RH
50	2	2	2	2	D3532-1	SPACER



SECTION A-A: DART D350-636-011/-012 SKIDTUBE
(LH SHOWN, RH OPPOSITE)

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6.0 PARTS LIST

(D350-636-011/-012/-013/-014 SKIDTUBES AT CHANGE 004 OR LATER)

Item	Qty -011	Qty -012	Qty -013	Qty -014	Qty -045	Part Number	Description
	X					D350-636-011	SKIDTUBE INSTALLATION, LH, STD AERAZUR/APICAL CYLINDRICAL FLOAT COMPATIBLE
		X				D350-636-012	SKIDTUBE INSTALLATION, RH, STD AERAZUR/APICAL CYLINDRICAL FLOAT COMPATIBLE
			X			D350-636-013	SKIDTUBE INSTALLATION, LH AIRCRAUSER/ APICAL TRI-BAG FLOAT COMPATIBLE
				X		D350-636-014	SKIDTUBE INSTALLATION, RH AIRCRAUSER/ APICAL TRI-BAG FLOAT COMPATIBLE
					X	D350-636-045	WEARSHOE KIT
1	1					D2750-041	SKIDTUBE ASSEMBLY, LH
1		1				D2750-042	SKIDTUBE ASSEMBLY, RH
1			1			D2750-043	SKIDTUBE ASSEMBLY, LH
1				1		D2750-044	SKIDTUBE ASSEMBLY, RH
*1	1					D2750-1	SKIDTUBE WELDMENT, LH
*1		1				D2750-2	SKIDTUBE WELDMENT, RH
*1			1			D2750-3	SKIDTUBE WELDMENT, LH
*1				1		D2750-4	SKIDTUBE WELDMENT, RH
**2	8	8	8	8		350A41-1027-20	SCREW
**3	8	8	8	8		23119AG120LE	WASHER
**4	8	8	8	8		22541N120	NUT
*5	1	1	1	1		AN8C35A	BOLT
*6A	1	1	1	1		AN960C816L	WASHER
*7	1	1	1	1		MS21083C8	NUT
*8	1		1			D3488-041	BLADE FITTING, LH
*8		1		1		D3488-042	BLADE FITTING, RH
9	1	1	1	1		D2741	BLADE
10	2	2	2	2		AN8C21A	BOLT
11	2	2	2	2		AN8C21A	WASHER (OR NAS1149N08620)
12	2	2	2	2		MS21083C8	NUT
*14	4	4	4	4		AN6C44A	BOLT
*15	8	8	8	8		D2745	BUSHING
*16	4	4	4	4		MS21043-6	NUT
*17	8	8	8	8		D3631-1	WASHER
*18	4	4	4	4		ALS4-1032-225	INSERT
*19	4	4	4	4		AN3C6A	BOLT
*20A	4	4	4	4		AN960C10L	WASHER
*20B	4	4	4	4		NAS1515H3L	WASHER

(CONTINUED ON NEXT PAGE)

(CONTINUED FROM PREVIOUS PAGE)

Item	Qty -011	Qty -012	Qty -013	Qty -014	Qty -043	Part Number	Description
*20A	4	4	4	4		AN960C10L	WASHER (REPLACES AN960JD10)
*20B	4	4	4	4		NAS1515H3L	WASHER (REPLACES AN960JD10)
*22	5	5	5	5	5	D3537-1	WEARPAD (REPLACES D2648-3)
*23A	1	1	1	1	1	D3535-13	WEARSHOE (REPLACES D2656-13)
*23B	1	1	1	1	1	D3536-13	GASKET
*24A	1	1	1	1	1	D3535-25	WEARSHOE (REPLACES D2746)
*24B	1	1	1	1	1	D3536-25	GASKET
*25A	1	1	1	1	1	D3535-35	WEARSHOE (REPLACES D2656-35)
*25B	1	1	1	1	1	D3536-35	GASKET
*26A	38	38	38	38	38	AN3C5A	BOLT (REPLACES AN3-5A)
*26B	4	4	4	4	4	AN3C7A	BOLT (REPLACES AN3-7A)
*27	42	42	42	42	42	AN960C10L	WASHER (REPLACES AN960JD10)
*28	38	38	38	38		ALS4-1032-225	INSERT (REPLACES NAS1330S3KB166)
*30	8	8	8	8		D3492-041	PLUG ASSEMBLY
*31	8	8				D3492-043	PLUG ASSEMBLY
*32			8	8		D3492-045	PLUG ASSEMBLY
***43	2	2	2	2		D3532-1	WASHER
50	2	2				D3532-1	SPACER

* PART OF D2750-041/-042 OR D2750-043/-044 ASSEMBLY

** TO BE SUPPLIED BY CUSTOMER

*** ONLY INSTALLED IF INSTALLING AN APICAL FLOAT SYSTEM

5.0 PARTS LIST

(D350-636-011/-012/-013/-014 SKIDTUBES AT CHANGE 003)

Item	Qty -011	Qty -012	Qty -013	Qty -014	Qty -043	Part Number	Description
	X					D350-636-011	SKIDTUBE INSTALLATION, LH, STD AERAZUR/APICAL CYLINDRICAL FLOAT COMPATIBLE
		X				D350-636-012	SKIDTUBE INSTALLATION, RH, STD AERAZUR/APICAL CYLINDRICAL FLOAT COMPATIBLE
			X			D350-636-013	SKIDTUBE INSTALLATION, LH AIRCRAISER/ APICAL TRI-BAG FLOAT COMPATIBLE
				X		D350-636-014	SKIDTUBE INSTALLATION, RH AIRCRAISER/ APICAL TRI-BAG FLOAT COMPATIBLE
					X	D350-636-043	WEARSHOE KIT (REPLACES -041 KIT)
1	1					D2750-041	SKIDTUBE ASSEMBLY, LH
1		1				D2750-042	SKIDTUBE ASSEMBLY, RH
1			1			D2750-043	SKIDTUBE ASSEMBLY, LH
1				1		D2750-044	SKIDTUBE ASSEMBLY, RH
*1	1					D2750-1	SKIDTUBE WELDMENT, LH
*1		1				D2750-2	SKIDTUBE WELDMENT, RH
*1			1			D2750-3	SKIDTUBE WELDMENT, LH
*1				1		D2750-4	SKIDTUBE WELDMENT, RH
**2	8	8	8	8		350A41-1027-20	SCREW
**3	8	8	8	8		23119AG120LE	WASHER
**4	8	8	8	8		22541N120	NUT
*5	1	1	1	1		AN8C35A	BOLT (REPLACES AN8-35A)
*6A	2	2	2	2		AN960C816L	WASHER (REPLACES AN960JD816)
*6B	2	2	2	2		NAS1515H8L	WASHER
*7	1	1	1	1		MS21083C8	NUT (REPLACES MS21083N8)
*8	1		1			D3488-041	BLADE FITTING, LH (REPLACES D2742-1)
*8		1		1		D3488-042	BLADE FITTING, RH (REPLACES D2742-2)
9	1	1	1	1		D2742-1	BLADE
10	2	2	2	2		AN8C24A	BOLT (REPLACES AN8-16A)
11A	2	2	2	2		AN960C816L	WASHER (REPLACES AN960JD816)
11B	2	2	2	2		D3672-13	WASHER
12	2	2	2	2		MS21083C8	NUT (REPLACES MS21083N8)
*13	4	4	4	4		ALS4-1032-225	INSERT
*14	4	4	4	4		AN6C44A	BOLT (REPLACES AN6-44A)
*15	8	8	8	8		D2745	BUSHING
*16	4	4	4	4		MS21043-6	NUT (REPLACES MS21042L6)
*17	8	8	8	8		D3631-1	WASHER (REPLACES NAS1515H8L)
*18	4	4	4	4		ALS4-1032-225	INSERT (REPLACES NAS1330S3KB166)
*19	4	4	4	4		AN3C6A	BOLT (REPLACES AN3-6A)

(CONTINUED ON NEXT PAGE)